selected broadcast channel. The microprocessor 22 then sends signals to a motor driver 20 for rotating a motor 16 and an antenna 10 so that the antenna assumes a predetermined optimal orientation for the selected broadcast channel. This predetermined optimal orientation is stored in a memory 46. A position encoder 34 provides a feedback signal to the microprocessor 22 so as to inform the microprocessor 22 of the actual orientation of antenna 10.

The Terk patent, however, describes no mechanism to improve the received signal from a positioned antenna dependent on the position of the antenna as recited in independent claims 38 and 48. Therefore, the Examiner relies on the Yu patent.

The Yu patent discloses two embodiments of an antenna rotating apparatus. In the first embodiment shown in Figures 1, 2, 3A, and 3B, antenna positions are stored in a RAM 50 during a preset mode of operation. This preset mode is shown by blocks 201-208 of the flow chart of Figure 3A. When not in the preset mode, blocks 209-213 (not shown in any Figure) rotate the antenna to a desired position. An AFT function is shown in Figure 1.

A second embodiment is shown in Figures 4, 5A, and 5B. It is this second embodiment to which the Examiner specifically points as a disclosure of the

processing that is recited in independent claims 38 and 48 and that is not shown in the Terk patent.

The operation of the second embodiment is shown in the flow chart of Figures 5A and 5B. Most of this flow chart is devoted to the positioning of the antenna and, therefore, is not pertinent to the processing as recited in independent claims 38 and 48. The only portion of this flow chart that is not involved in the positioning of the antenna is the automatic fine tuning function, which is described in the Yu patent as conventional automatic fine tuning.

In automatic fine tuning, the local oscillator of the tuner is adjusted so that the tuner supplies its output signal at the predetermined intermediate frequency (IF). This predetermined intermediate frequency is 41.25 MHz for the sound carrier and 45.75 MHz for the picture carrier. The adjustment is made by monitoring the frequency of the picture carrier in the IF section of the receiver and developing an error signal to adjust the local oscillator whenever the carrier is above or below 45.75 MHz. As its name implies, this operation is fully automatic and is not dependent on any stored parameters other than the fixed IF, which is the same regardless of the station to which the receiver is tuned. Furthermore, the Yu patent does not disclose or suggest storing any

parameters dependent on antenna position to facilitate automatic fine tuning (as no such stored parameters are needed to effect the operation).

Thus, the automatic fine tuning disclosed in the Yu patent is not dependent on the position of an antenna and does not meet the processing limitations of independent claims 38 and 48. Because all of the other functions disclosed in the portion of the Yu patent to which the Examiner points (and in all other portions of the Yu patent) are involved in antenna rotation, they are not involved in the processing of the received signal from the positioned antenna.

Accordingly, because neither the Terk patent nor the Yu patent discloses or suggests the processing recited in independent claims 38 and 48, the combination of the Terk patent and the Yu patent cannot teach or suggest the inventions of independent claims 38 and 48. For this reason, the inventions of independent claims 38 and 48 are patentable over the Terk patent in view of the Yu patent.

In rejecting dependent claims 39-41 and 49-51, the Examiner added the Ma patent to the Terk patent and the Yu patent.

The Ma patent discloses a satellite antenna system that drives an antenna until an optimal

orientation of the antenna with respect to a signal source is detected. The optimal orientation for the antenna with respect to the signal source is defined as the orientation that has the lowest noise with respect to the signal source. This orientation is stored. There is no disclosure or suggestion in the Ma patent of any processing of the received signal to improve its reception based on the position of the antenna.

The Examiner points to the disclosure in the Ma patent of using a noise figure in the presetting of the antenna positions. However, this noise figure is not used in processing the received signal from the positioned antenna. The noise figure is merely used to determine the optimum position of the antenna.

The Examiner contends that the Ma patent suggests the use of the noise figure to process the signal from the positioned antenna. However, there is no such suggestion in the Ma patent or elsewhere. The Ma patent merely suggests using the noise figure to achieve an optimum position for the antenna. That position is then stored for later use.

While the noise figure is also stored, the purpose of storing the noise figure is so that it can be compared to other noise figures corresponding to other positions of the antenna during the search for the

antenna position that produces the lowest noise figure. The antenna position that produces the lowest noise figure is the optimum position of the antenna. Thus, the Ma patent suggests using a noise figure in presetting optimum positions of an antenna, but does not suggest using the noise figures to process signals from the antenna dependent on the position of the antenna.

Moreover, the Examiner does not show or suggest how these noise figures can be used in combination with the position of the antenna so as to process and improve the signal from the positioned antenna.

Accordingly, for all of the reasons give above, the Ma patent does not suggest any use of the noise figure other than to determine and set the optimum position of the antenna.

Accordingly, because there is no disclosure or suggestion in the Terk patent, the Yu patent, and the Ma patent to process the received signal from a positioned antenna dependent on the position of the antenna so as to improve the received signal, the inventions of independent claims 38 and 48 are patentable over the Terk patent in view of the Yu patent and further in view of the Ma patent.

In rejecting dependent claims 42, 45, 52, and 55, the Examiner added the Holmes patent to the Terk patent and the Yu patent.

However, the Holmes patent does not suggest the invention of independent claims 38 and 48. The Holmes patent is directed to ghost cancellation. A variable gain amplifier 80 is part of a circuit that generates a pseudo ghost. This pseudo ghost is used to cancel the ghost. While this function is meant to improve the signal, there is no suggestion that this function is dependent on the position of an antenna. Therefore, there is no suggestion that this function should be combined with antenna positioning or that this function should be made position dependent.

Accordingly, because there is no disclosure or suggestion in the Terk patent, the Yu patent, and the Holmes patent to process the received signal from a positioned antenna dependent on the position of the antenna so as to improve reception of the received signal, the inventions of independent claims 38 and 48 are patentable over the Terk patent in view of the Yu patent and further in view of the Holmes patent.

In rejecting dependent claims 43, 47, 53, and 57, the Examiner added the Babitch patent to the Terk patent and the Yu patent.

The Babitch patent discloses a system for automatically pointing a highly directional antenna. Two GPS antennas are mounted at horizontally opposed ends of the highly directional antenna so that the GPS antennas lie on a line having a normal vector parallel to a boresight of the highly directional antenna. The outputs from the GPS antennas are used to calculate the GPS latitude and longitude and the attitude angles of the pair of GPS antennas. The highly directional antenna is pointed at a particular target communications satellite based on these calculations.

As can be seen, there is no disclosure or suggestion in the Babitch patent of processing a received signal from a positioned antenna to improve the received signal, where the processing is dependent upon the position of the antenna. Accordingly, because there is no disclosure or suggestion in the Terk patent, the Yu patent, and the Babitch patent to process the received signal from a positioned antenna dependent on the position of an antenna so as to improve reception of the received signal, the inventions of independent claims 38 and 48 are patentable over the Terk patent in view of the Yu patent and further in view of the Babitch patent.

In rejecting dependent claims 44 and 54, the Examiner added the McNabb patent to the Terk patent and the Yu patent.

The McNabb patent discloses a system for automatically pointing an antenna that is carried on a mobile platform toward a distant location such as a terrestrial, airborne, or satellite transmitter or receiver. The system includes a database for storing data for distant locations, an electronic compass for determining a reference azimuth for the local antenna, and a global positioning system (GPS) receiver for determining a local location. A processor computes a pointing direction having an azimuth and an elevation from the local location of the mobile platform to the distant location. The processor also computes a horizontal rotation angle between the pointing direction and the reference azimuth and a vertical rotation angle from local horizontal to the desired elevation. The local antenna is rotated by the horizontal and vertical rotation angles in order to point the local antenna to the distant location.

There is no disclosure or suggestion in the McNabb patent of processing a received signal from a positioned antenna to improve the received signal, where the processing is dependent upon the position of the

antenna. Accordingly, because there is no disclosure or suggestion in the Terk patent, the Yu patent, and the McNabb patent to process the received signal from a positioned antenna dependent on the position of the antenna so as to improve reception of the received signal, the inventions of independent claims 38 and 48 are patentable over the Terk patent in view of the Yu patent and further in view of the McNabb patent.

In rejecting dependent claims 46 and 56, the Examiner added the Juroff patent to the Terk patent and the Yu patent.

The Juroff patent discloses a system for remotely tuning a television tuner. A remote transmitter 26 transmits a signal to the system, which responds to the signal by driving a motor to tune the tuner to the desired station.

There is no disclosure or suggestion in the Juroff patent of processing a received signal from a positioned antenna to improve the received signal, where the processing is dependent upon the position of the antenna. Accordingly, because there is no disclosure or suggestion in the Terk patent, the Yu patent, and the Juroff patent to process the received signal from a positioned antenna dependent on the position of the antenna so as to improve reception of the received

signal, the inventions of independent claims 38 and 48 are patentable over the Terk patent in view of the Yu patent and further in view of the Juroff patent.

Accordingly, independent claims 38 and 48 are patentable over the references applied by the Examiner. Moreover, because independent claims 38 and 48 are patentable over these references, the dependent claims are likewise patentable over these references.

In view of the above, it is clear that the claims of the present application patentably distinguish over the art applied by the Examiner. Accordingly, allowance of these claims and issuance of the above captioned patent application are respectfully requested.

Respectfully submitted,

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